# *Waste and Materials Disposition Update from EM's Office of Regulatory Compliance*


**EM Site Specific Advisory Board Chairs Meeting**
**March 2009**

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***for Regulatory Compliance***
***Office of Environmental Management***

# Outline

- Overview of Office of Regulatory Compliance
  - Compliance Status
  - Oversight and Management Strategies
  - DOE Order 435.1, *Radioactive Waste Management*
  - Intergovernmental, Stakeholder & Regulatory Interactions
- Discussion of Budget and Planning Impacts on Waste Disposition Plans
- Updates on Waste and Material Stream Disposition
  - High-Level/Tank Waste
  - Transuranic Waste
  - Low-Level/Mixed Low-Level Waste
  - Greater-Than Class C LLW
  - Mercury Management Project
  - Nuclear Materials Disposition
- Closing & Discussion

# *Overview on Office of Regulatory Compliance – Scope, Responsibilities and Strategies*

# Office of Regulatory Compliance (EM-10)

- The Office of Regulatory Compliance:
  - Responsible for EM matters related to environmental responsibilities defined by law, regulation or negotiated or stipulated compliance agreements
  - Leads efforts to develop strategies for dispositioning EM wastes and materials and for complying with applicable regulations, and supports implementation of the EM disposition projects
  - Performs oversight of compliance with DOE Order 435.1 on Radioactive Waste Management
  - Serves as EM's National Environmental Policy Act (NEPA) Compliance Officer
  - Serves as the interface with stakeholder groups within and outside the Department
- EM remains focused on providing complex-wide leadership in management and disposition of DOE waste streams and compliance with applicable environmental laws and regulations.

*Implementation of the American Recovery and Reinvestment Act requires extensive work with DOE's regulators and detailed disposition planning.*

# Compliance Status

- DOE has entered into approximately 40 Environmental Regulatory Agreements for cleanup
  - In FY 2008, we met nearly 90 percent of nearly 200 enforceable milestones
  - For FY 2009, there are more than 160 Enforceable Milestones
- The FY 2009 Budget Request identified that some compliance requirements could not be met due to funding or technical issues
  - The additional funds from the *American Recovery and Reinvestment Act* may help to bridge some of this compliance gap
- Recent successes:
  - Resolution, last year, of the long standing legal issues with Idaho on exhumation of buried TRU waste at Idaho National Lab
  - Successful renegotiation with Washington (WA) of many milestones within the Hanford Tri-Party Agreement (TPA)
  - Successful multi-agency negotiation with NY, EPA and NRC to define terms of future cleanup at West Valley ("Core Team Approach")
- Current challenges:
  - Litigation by WA regarding missed TPA milestones related to the Waste Treatment Plant

# *DOE Order* 435.1, *Radioactive Waste Management*

- DOE's waste management policy remains unchanged
  - DOE's *Waste Management Programmatic Environmental Impact Statement* and Records of Decision are still valid
- However, nearly a decade has passed since last major revision
- Update planned to address multiple purposes
  - Incorporate lessons learned
  - Institutionalize informal guidance documents
  - Address changes in relevant statutes, regulations, and standards
  - Account for advances in technology
  - Address new and emerging DOE needs
- Progress to date
  - Formed an Integrated Project Team
  - Solicited planning input
  - Initiated Complex Wide Review to assess waste management activities and to support the update

# *Performance Assessments & Community of Practice*

- Performance Assessments (PAs)
  - Are a LLW disposal requirement under DOE M 435.1-1
  - Evaluate compliance with performance objectives
  - Approved PAs exist for all DOE LLW disposal sites
- Community of Practice
  - Is being implemented via DOE's High-Level Waste Corporate Board
  - Goals/Objectives
    - Promote PA consistency
    - Provide targeted guidance and support
    - Improve sharing of modeling approaches and data
    - Conduct training sessions and workshops
    - Provide framework for enduring PA resource

# *Budget and Planning Update – Impact on Disposition*

# EM Risk-Based Priorities

- Essential activities to maintain a safe and secure posture in the EM complex
- Radioactive tank waste stabilization, treatment, and disposal
- Spent fuel stabilization, packaging, and disposition
- Special nuclear fuel storage, receipt, and disposition
- High priority groundwater remediation
- Transuranic and mixed/low-level waste disposition
- Soil and groundwater remediation
- Excess facilities deactivation and decommissioning (D&D)

# American Recovery and Reinvestment Act (ARRA)

- EM has been given the opportunity to make additional investments in lower risk activities and complete building the capability for dispositioning tank waste, nuclear materials, and spent nuclear fuel

- With the additional funding EM will be expected to achieve results
  - Create and preserve thousands of jobs
  - Provide significant environmental cleanup
  - Make large tracts of land available for re-utilization

- EM takes this opportunity very seriously and is employing a formal, integrated project approach to implement ARRA

# EM's Top-Level Goals

## Footprint Reduction

- Provide maximum return on money invested in EM – reduces overall life cycle cost of cleanup program
- Reduce the active area and number of sites
- Focus on proven successes – solid waste disposal, D&D of contaminated facilities, and soil and groundwater remediation
- Create thousands of jobs through economic recovery investment

## Reutilization of Assets/Energy Parks

- Transform EM resources: land, infrastructure, technologies, highly-skilled workforce into an Energy Parks Initiative (EPI)

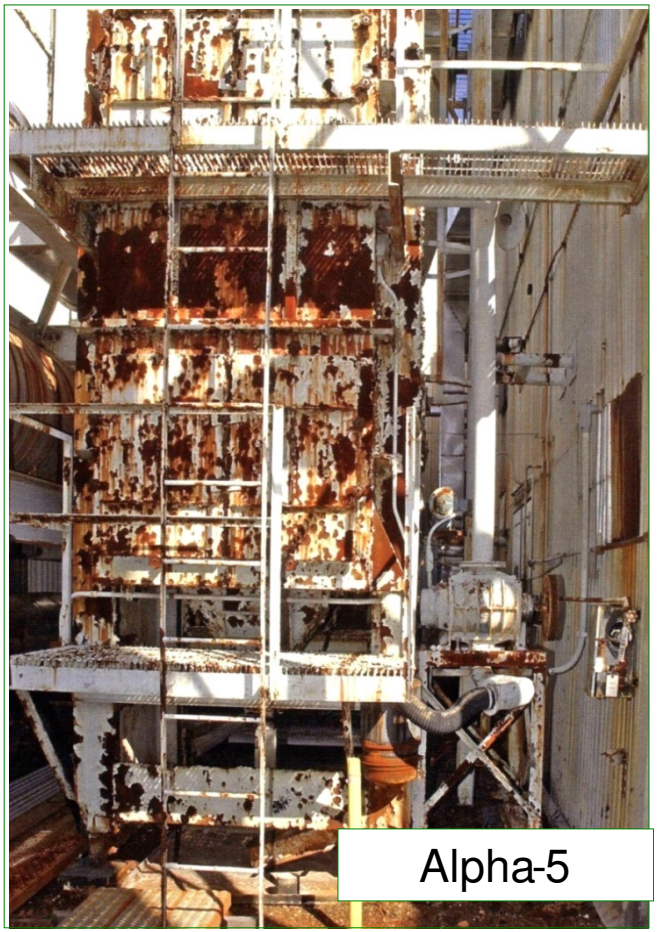
# DOE's radioactive waste management priorities….

- Continue to manage waste inventories in safe, compliant manner
- Address high risk waste in a cost-effective manner
- Maintain and optimize current disposal capability for future generations
- Develop future disposal capacity in an complex environment
- Promote the development of treatment and disposal alternatives in the commercial sector
- Review current policies and directives within DOE
- Provide needed oversight

# Planning and Analysis – *understand changes in life -cycle cost estimate*

## Unfunded Liability

- NNSA, SC and NE identified cleanup work for EM consideration
- 306 surplus facilities
- 34 types of materials
- $3.7B-9.2B Cost estimate



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# *Waste Disposition Updates*

# High-Level/Liquid Waste Management

- Disposition strategy, in brief:
  - Maintain safety of existing tanks → retrieve tank waste → process and treat waste → interim store treated waste pending final disposal
- Tank retrieval progress continues and tank closure progress has been made
  - 13 tanks closed to date [2 at SRS; 11 at INL]
- "Section 3116" of the National Defense Authorization Act and DOE Order 435.1 provide the framework for tank closures and allows residual waste (tank heels) can be left in place and managed to meet LLW requirements
  - Waste determination with NRC consultation and monitoring
  - Waste incidental to reprocessing determinations under DOE M 435.1-1

# High-Level/Liquid Waste Management

- Waste processing progress continues at Savannah River Site
  - Defense Waste Processing Facility (DWPF) continues to vitrify the HLW –2,675 cans produced to date
  - MCU operations continue, providing interim salt treatment capabilities
  - Saltstone facility is operating, processing low activity fraction for onsite disposal

- Construction continues to provide future treatment capabilities
  - Integrated Waste Treatment Unit under construction at Idaho for treatment of sodium bearing waste (operations to begin 2011)
  - Salt Waste Processing (operations to begin in 2014)
  - Waste Treatment Plant at Office of River Protection (operations to begin in 2019)

# *What's New in HLW…*

- Newly awarded contracts to address tank waste management and treatment
  - New Tank Operations Contractor at Office of River Protection
  - New Liquid Waste Contract award is pending
- High Level Waste Corporate Board established in 2008
- Recent performance assessment work on tank farms completed at SRS and in process at Hanford
- HLW strategic initiatives under development, led by EM's Office of Engineering and Technology, and supported by EM-10, DOE sites and national labs
- Availability of geologic disposal?
  - EM's near-term plans to ensure safe treatment and interim storage of HLW are not impacted by changes in Yucca Mountain Project
  - EM will support Administration's Blue Ribbon Panel as disposal and storage alternatives are evaluated

Shipment data as of 3/9/09

# Transuranic Waste Disposition Update

- Waste Isolation Pilot Plant (WIPP) Summary
  - Over 58,700 $m^3$ of defense transuranic waste disposed
  - Completed nearly 7,200 shipments
- Nearly 10 years of safe operations!
  - Operations began March 1999


- Remote-handled (RH) shipments began in Jan 2007
  - Over 200 RH shipments received to date
  - Currently, 3 RH sites (INL, Argonne and Oak Ridge) are shipping, with additional sites planned later this year

# TRU Shipments Received

| Site | Shipments | |
|---|---|---|
| Argonne National Laboratory | 25 | |
| Idaho National Laboratory | 3,229 | |
| Los Alamos National Laboratory | 434 | |
| Lawrence Livermore National Laboratory | 18 | |
| Nevada Test Site | 48 | |
| Rocky Flats Environmental Technology Site | 2,045 | |
| Hanford Site | 432 | |
| Oak Ridge National Lab | 6 | |
| Savannah River Site | 962 | |
| **Total to WIPP** | 7,111 | |



Shipment data as of 3/9/09

# *What's New in TRU Waste Disposition*

- In March 2008, DOE published a Supplement Analysis and Amended Record of Decision to support optimization of the National TRU Program
  - Limited volumes of both CH- and RH-TRU waste may be sent to Idaho National Laboratory to be treated and characterized prior to shipment to WIPP for disposal.
  - Approximately 2,067 CH-TRU shipments and 188 RH-TRU shipments could move to INL for treatment and characterization
  - **However, DOE will continue to comply with the Idaho Settlement Agreement terms and milestones**
- Implementation of the inter-site shipping campaign began in December 2008 shipment of legacy TRU from NTS to INL, during winter maintenance outage at WIPP

American Recovery and Reinvestment Act will enable acceleration in disposition of RH TRU volumes

# Updated FY 2009 TRU Waste Shipping Goals

| Generator Site | # Contact Handled Shipments | # Remote Handled Shipments |
|---|---|---|
| Argonne National Laboratory | | 34 |
| Idaho National Laboratory | 674 | 48 |
| Los Alamos National Laboratory | 115 | 16 (April) |
| Oak Ridge National Laboratory | 34 | 35 (Feb) |
| Savannah River Site | 154 | 46 (Spring) |
| GE Vallecitos, CA | | 17 (Spring) |
| **Total to WIPP** | **977** | **180** |
| **Inter-site to INL** | | |
| Nevada Test Site | 17 | |
| GE Vallecitos | 1 | |

# *WIPP Regulatory Update*

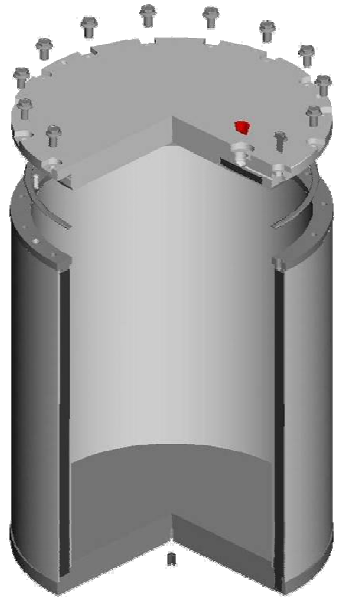
- WIPP recertified by EPA every 5 years to demonstrate compliance with disposal standards
  - First recertification application submitted 2004; approved in March 2006
  - Second recertification application will be submitted to EPA in March 2009
- 1st Hazardous Waste Facility Permit renewal application will be submitted May 2009

# *Packaging and transportation innovations will help optimize TRU waste disposal in future*

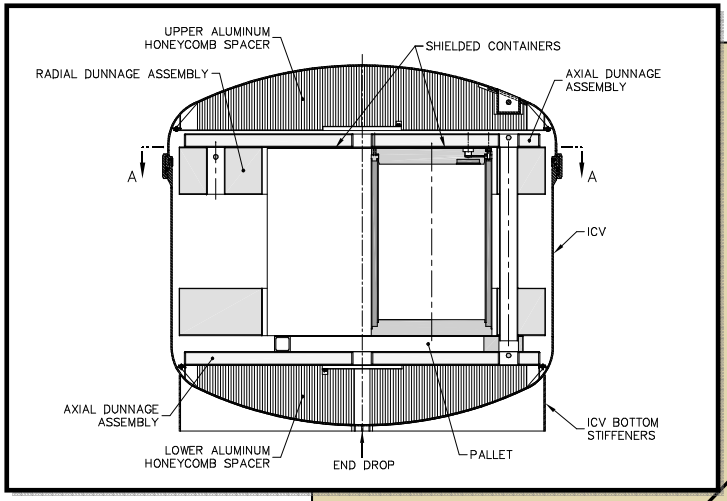
- Use of shielded containers to enable RH TRU acceleration and improve worker safety
- Development of TRUPACT-III will enable shipment of oversized containers to be shipped without repackaging
- Detailed packaging instructions developed to increase certification rates and reduce need for future repackaging

# *Shielded Containers* - *A new method planned to ship RH waste to WIPP*

- External dimensions = 55-gal drum, internal capacity for a standard 30-gallon drum
- Transport in 3-pack configuration in HalfPACT under current design and licensing bases:
- Handling, storage, and emplacement in 3-pack configuration
- Incorporate into existing CH TRU waste handling infrastructure – count as RH waste
- Shielded containers will significantly reduce the number of RH waste shipments to WIPP



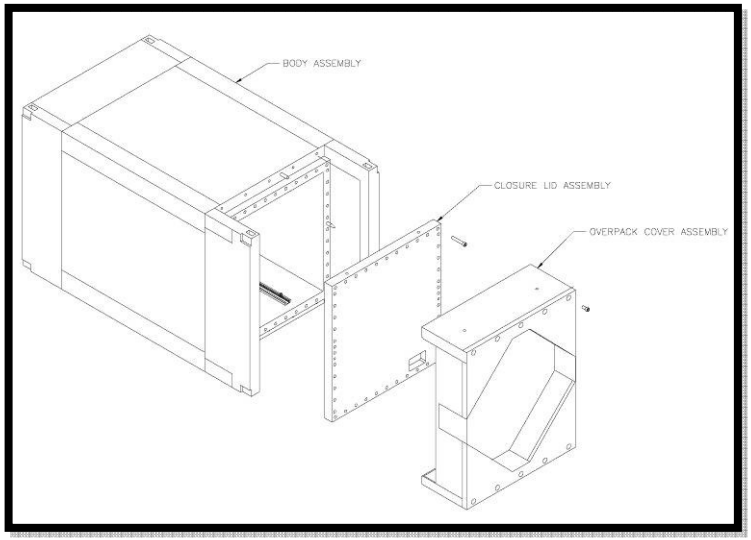
# Shielded Container Shipping Configuration



# *Radial Shock Absorber to be used with shield containers*

# TRUPACT-III

- Rectangular transportation container
  - 8'2 x 8'8"x 19'.10.5" integrated shell with 5 different layers- high strength stainless
  - For use with large box waste to eliminate repackaging
  - Approximately 25% of DOE TRU waste in large boxes
  - Must meet NRC Type B requirements
  - NRC currently reviewing application



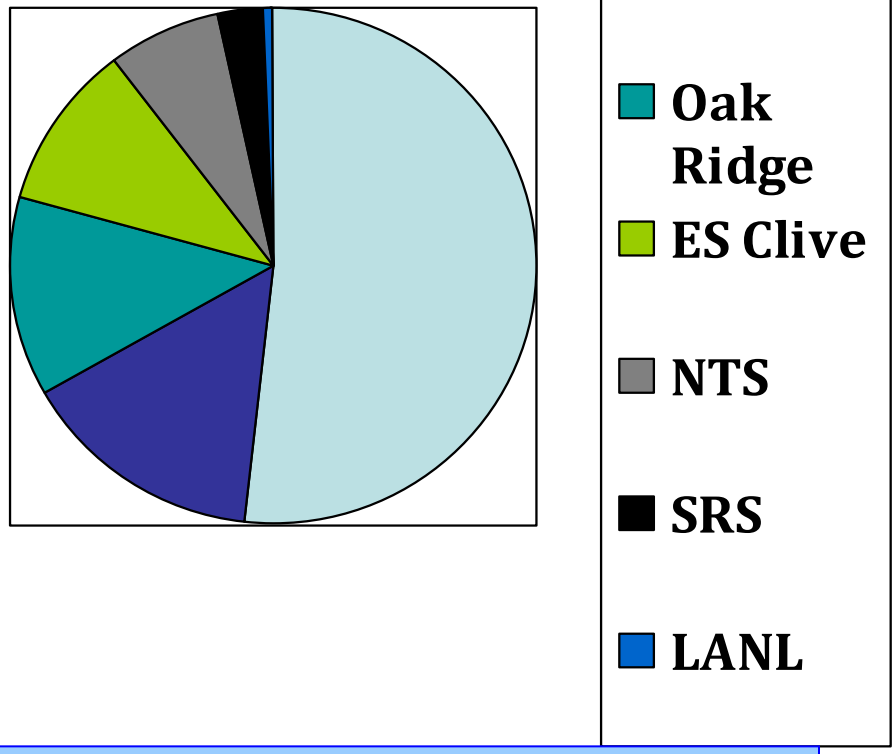

# *DOE LLW/MLLW management-related concerns…*

- Increasing costs due to growing scope and market conditions
- Uncertainty in availability of future disposal capacity
- Potential challenges to DOE policies and strategies
- Ability to address excess facilities and materials scope within constrained resources
- Potential natural resource damages
- Increasing inquiries from outside DOE for access to DOE low-level and mixed low-level waste facilities, due to changing circumstances

# *Most DOE LLW/MLLW is derived from decommissioning and site cleanup activities*

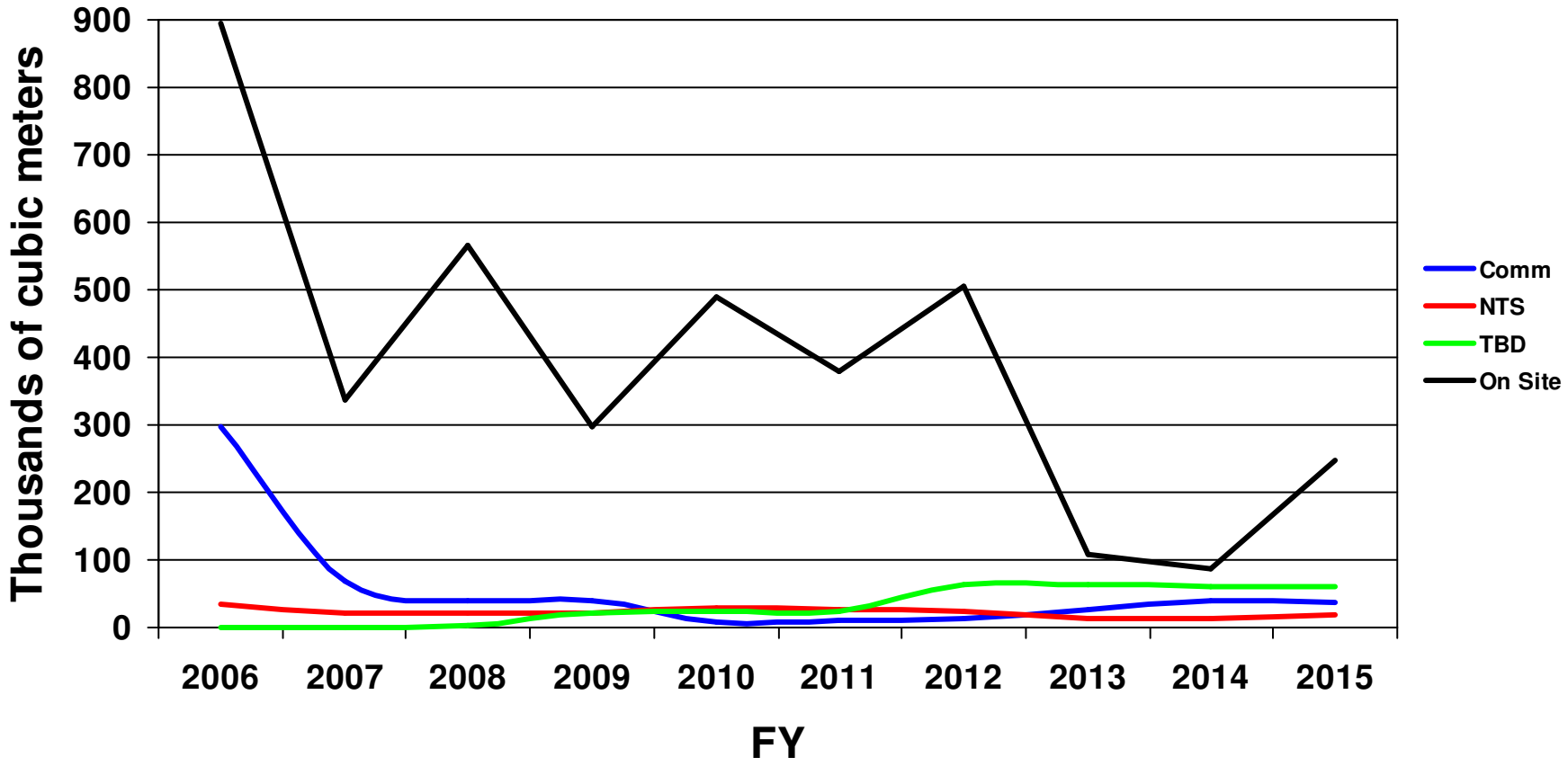
DOE disposed nearly ½ million cubic meters of LLW and MLLW in fiscal year 2008

- 77% disposed on-site in DOE CERCLA disposal facilities
- 12% disposed onsite in DOE non-CERCLA facilities
- 11% disposed commercially (Energy*Solutions* Clive Facility)




*Commercial disposal treatment and disposal facilities are very valuable partners in the DOE cleanup mission.*

# Off Site LLW/MLLW disposition has declined and On Site disposition follows similar trend, but at higher volumes



# Low-Level/Mixed Low-Level Waste

- Updated life-cycle LLW/MLLW disposition data (including transportation modes and schedules) will soon be available
  - Annual update collected in January and February from all DOE waste generator sites
  - Data currently undergoing quality review
  - Revised data expected to be posted on the Waste Information Management System (WIMS) in April 2009
- Subsquent update will likely be required to reflect activities associated with *American Reinvestment and Recovery Act*
- To some degree, forecast volumes will remain somewhat uncertain
  - For example, some higher activity MLLW volumes "fall out" of TRU inventory

**WIMS can be found at http://wims.arc.fiu.edu/WIMS**

# A Look Ahead - DOE LLW/MLLW Disposition

- Continued use of onsite disposal at large cleanup sites
- Continued use of commercial disposal facilities, when cost effective and in the best interest of the Department
- Current Mixed Waste Disposal Unit at NTS must close in December 2010
  - Alternatives being evaluated for future higher activity MLLW disposal
- Pending EM cleanup and operations contracts include significant waste management scope
- New Tank Closure and Waste Management Environmental Impact Statement at Hanford
  - Must meet Settlement Agreement before off site waste can be received
- Complex-wide LLW/MLLW acquisitions
  - Treatment (Draft Request for Proposals issued February 3, 2009)
  - New LLW/MLLW disposal acquisition planning will begin within next year
- TSCA Incinerator (Oak Ridge) will cease operations in FY 2009

# *LLW/MLLW Disposition Update*

- Commercial industry continues to provide viable alternatives for disposal and treatment
  - Newly-extended national LLW disposal contract with Energy*Solutions* Clive, UT
    - Many DOE sites continue to obtain commercial disposal exemptions and take advantage of rail access to Clive
  - Alternate commercial treatment paths for PCB-contaminated waste are enabling the Department to close the TSCA Incinerator at Oak Ridge later this year

# What's New in LLW/MLLW Disposition....

- Complex-wide Acquisition for LLW/MLLW Treatment
  - Draft Request for Proposals issued February 3, 2009 for public comment (due mid February).
  - Scope: Bulk Survey For Release services (Nuclear Regulatory Commission requirements); Authorized Release services for low level waste (DOE Order 5400.5, Radiation Protection of the Public and the Environment requirements); Treatment services for MLLW and LLW; Ancillary Services.
  - Website for procurement: http://www.emcbc.doe.gov/MLLW_treatment/index.html
  - Comments are being considered for incorporation into the RFP.
  - Contract award(s) expected about the fourth quarter of calendar year 2009.
- DOE has started preliminary planning for LLW/MLLW disposal acquisition

## *DOE EM is also closely monitoring changing circumstances in the nation's civilian LLW management system*

- Reduced disposal access for Class B & C wastes
- Calls for changes to Low Level Waste Policy Act
- Possible increased disposal demand to address disused sealed sources
- Changes in disposal marketplace
  - Developments in Texas compact (Waste Control Specialists)
  - Changes in treatment capabilities
- Contemplated changes in NRC waste classification systems and waste related guidance documents
  - Branch technical position on concentration averaging
  - Updated guidance on storage of B&C wastes
  - NRC review of depleted uranium disposal considerations

# Greater-Than-Class C LLW Disposal

- DOE has statutory responsibility to provide disposal capability for GTCC LLW generated by NRC and Agreement State licensees
- DOE is preparing EIS for disposal of commercial GTCC LLW and DOE "GTCC-like waste"
- EIS scope includes 11,000$m^3$ of stored and projected waste including activated metals, sealed sources, and other waste (e.g., contaminated debris)
  - 7,300$m^3$ from the commercial sector
  - 3,700$m^3$ from DOE activities

# Greater-Than-Class C LLW Disposal

- Disposal alternatives being evaluated include:
  - Deep geologic disposal at WIPP and proposed Yucca Mountain Repository
  - Enhanced near surface disposal at Hanford, INL, LANL, NTS, ORR, SRS, WIPP vicinity, and generic commercial locations
  - Intermediate depth borehole location at the same ENS locations, except SRS and ORR
- Preliminary Draft EIS has been completed and is undergoing internal review.
- Goal is to issue Draft EIS in 2009 and Final EIS in 2010
- Before issuing ROD, DOE must submit a Report to Congress on disposal alternatives and wait Congressional action
- Engaged with Tribal nations to obtain and reflect their unique perspective into the EIS

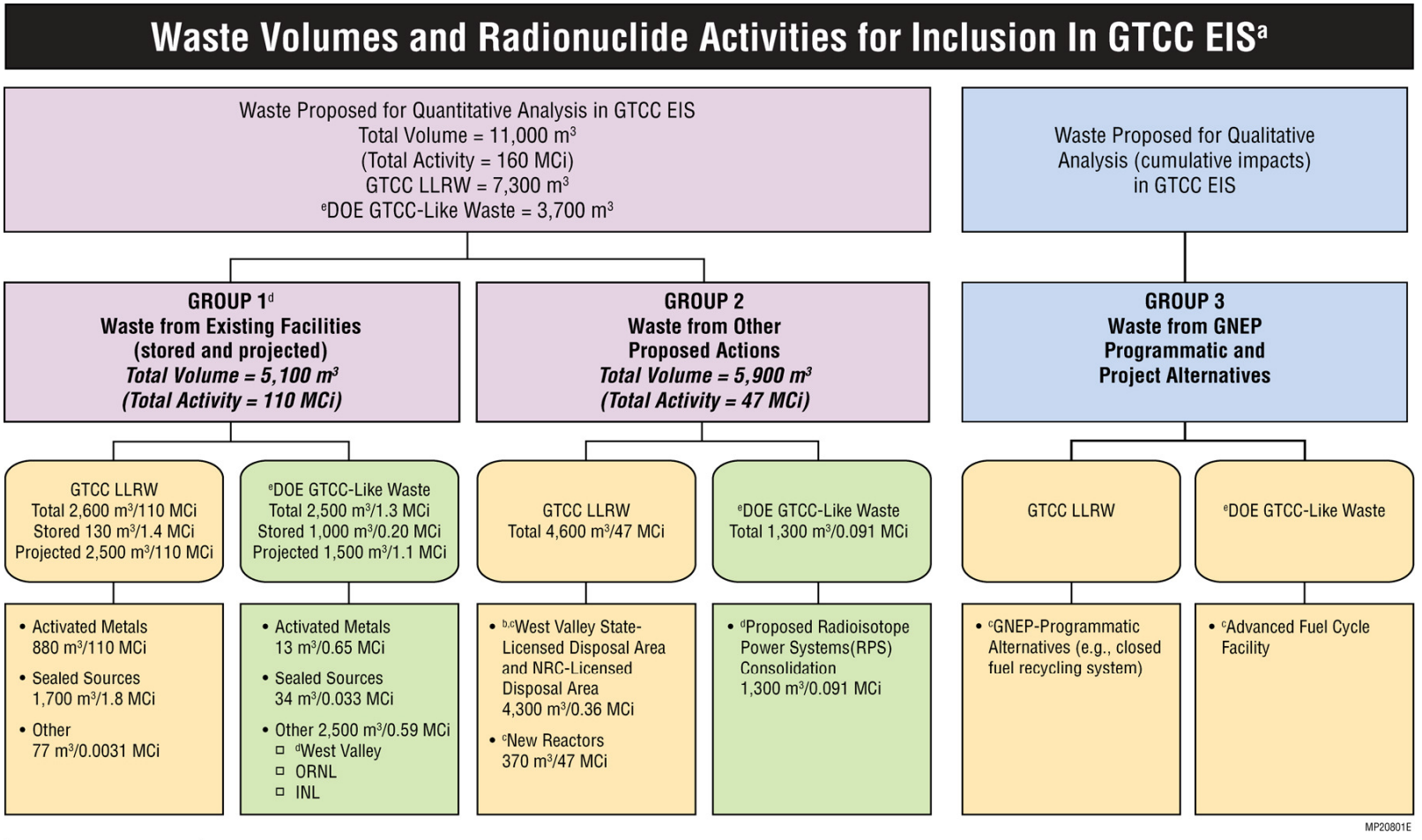
# Disposal Alternatives Evaluated in EIS

| Alternative | Location |
|---|---|
| 1. No action | Continued storage consistent with ongoing practices |
| 2. Geologic Repository | Waste Isolation Pilot Plant (WIPP) |
| 3. Geologic Repository | Proposed Yucca Mountain Repository |
| 4. Enhanced Near Surface | Hanford, Idaho National Laboratory (INL), Los Alamos National Laboratory (LANL), Nevada Test Site (NTS), Oak Ridge Reservation (ORR), Savannah River Site (SRS), WIPP Vicinity, and generic commercial |
| 5. Intermediate Depth Borehole | Hanford Site, INL, LANL, NTS, WIPP Vicinity, and generic commercial |

**Remarks**

- EIS will identify whether legislation or regulatory modifications that may be needed to implement any of these alternatives
- Combination of alternatives may be feasible
- EIS being structured so that decisions can be made on a waste stream-by-waste stream basis

# Waste Inventory Evaluated in Preliminary EIS




[a] Values have been rounded to two significant figures; volume estimates represent packaged waste volumes.

[b] The packaged waste volume given here is based on a packaging factor of 1.02 applied to in-place GTCC LLRW estimate.

[c] Waste volumes not included in the estimates provided in the Notice of Intent (NOI) to prepare the EIS.

[d] RPS waste was identified in the NOI as DOE GTCC-like waste and is now shown in Group 2. Also, 810 m³ from the West Valley Site was added to the original NOI estimate and included in Group 1.

[e] GTCC-Like Waste refers to DOE LLRW and transuranic waste with characteristics similar to GTCC LLRW and which may not have an identified path to disposal. The term GTCC-like does not have the effect or intent of creating a new classification of radioactive waste.

# *Extensive coordination required on GTCC EIS*

- EPA Cooperating Agency; NRC Commenting Agency
- Tribal Nations (formal consultation process developed)
- Industry (waste inventory and operating experience)
- Other Stakeholders, including Advisory Boards and NGOs
- Other DOE EISs
  - Yucca Mountain Final Supplemental EISs
  - GNEP Programmatic EIS
  - Nevada Test Site
  - Hanford Tank Closure & Waste Management EIS
  - West Valley Decommissioning EIS
  - LANL Site Wide EIS
  - Complex Transformation Supplemental Programmatic EIS

*For additional information on the GTCC EIS visit http://www.gtcceis.anl.gov/*

# *Nickel Recycle*

- **DOE is evaluating disposition of ~15,300 tons of classified nickel* recovered from uranium enrichment process equipment**
- **DOE plans to pursue a strategy to competitively sell the nickel to a qualified bidder that will 1) declassify, 2) decontaminate, and 3) alloy, fabricate, then manufacture the nickel into a product that can be used in a radiologically-controlled (or licensed) process**
  - Nickel would remain within a controlled environment throughout the disposition process; it will not be "released" into unrestricted commerce

# *Nickel Recycle*

- **The Secretarial Moratorium/Suspension has not been lifted**
  - January 12, 2000, Moratorium prohibits unrestricted release of volumetrically-contaminated metal into commerce
  - July 13, 2000, Suspension prohibits unrestricted release of all scrap metals from DOE radiological areas into commerce
- **Processing and reuse of the nickel for radiologically-controlled applications would need Secretarial approval to pursue implementation**

# *Nickel Recycle*

- **The buyer must have all necessary licenses, permits, meet all requirements, and comply with the law**
- **All facility construction and licensing costs are responsibility of the buyer**
- **Nickel must be declassified and decontaminated by facility(ies) which must be licensed by the NRC or an Agreement State, or under the AEA authority**
- **Stringent "defense in depth" requirement must be met: decontaminated nickel must meet IAEA clearance levels for alloying, manufacturing, and end-use of nickel**
  - This will ensure that radiation doses and environmental impacts are kept as low as reasonably achievable, should planned controls fail
- **Stringent perpetual property/radiological control requirements are major concerns of stakeholders (e.g., MIRC, environmental groups)**
  - Technically there is no need for such controls, i.e., IAEA limits are met. This approach may be criticized by buyers as overkill.

# *Materials Disposition Update*

# *What's New: EM's New Mercury Management Project*

- *The Mercury Export Ban Act of 2008* requires DOE to provide storage and long-term management of mercury (non-radioactive) generated in the U.S.
  - Responsibility has been assigned to EM, with EM-10 lead
- Critical Milestones Required by Statute
  - DOE issues procedures and standards – 10/01/09
  - DOE designates mercury storage facility(ies) – 01/01/10
  - Mercury storage facility ready to accept mercury – 01/01/13
  - Ban on export of mercury from U.S. effective – 01/01/13
  - DOE mercury storage facility operating under RCRA permit – 01/01/15
- Current Status
  - Established Interagency Steering Committee with EPA and Defense Logistics Agency
  - Issued Expression of Interest in FedBizOps and Federal Register
  - Developed a NEPA strategy for facility(ies) designation

# Nuclear Materials Disposition Update

- Nuclear Materials consolidation and disposition plans and activities are integrated across DOE
- Consolidation and disposition of surplus plutonium and highly enriched uranium at SRS continues
  - Surplus Pu to be dispositioned as MOX fuel
  - Surplus HEU is being dispositioned via down-blending into LEU for use in commercial reactors
- Construction of the $DUF_6$ conversion facilities continues
- $U^{233}$/Building 3019 Stabilization Project continues
  - Future processing will prepare $U^{233}$ for permanent disposal
- DOE issued its Excess Uranium Inventory Management Plan in December 2008
- EM is safely managing inventory of nearly 2,500 MTMH of spent nuclear fuel, pending availability of the Yucca Mountain repository
- EM supports Departmental efforts to ensure disposition for small volume material streams, as well

## *Excess Uranium Inventory Management Plan – Path Forward*

- Complete reviews required under NEPA for NU and DU (Reviews have already been completed for HEU blend-down and off-specification uranium)
- Identify marketable material based on assay and specifications of material (DU)
- Prepare cost/benefit and market analyses
- Secretary of Energy determines, as may be required, that a proposed transaction does not have an adverse material impact on the domestic mining, conversion, and enrichment industries
- Seek expressions of interest or other sources of comments
- Execute contracts to sell Uranium stores

# EM Spent Nuclear Fuel (SNF) Path Forward

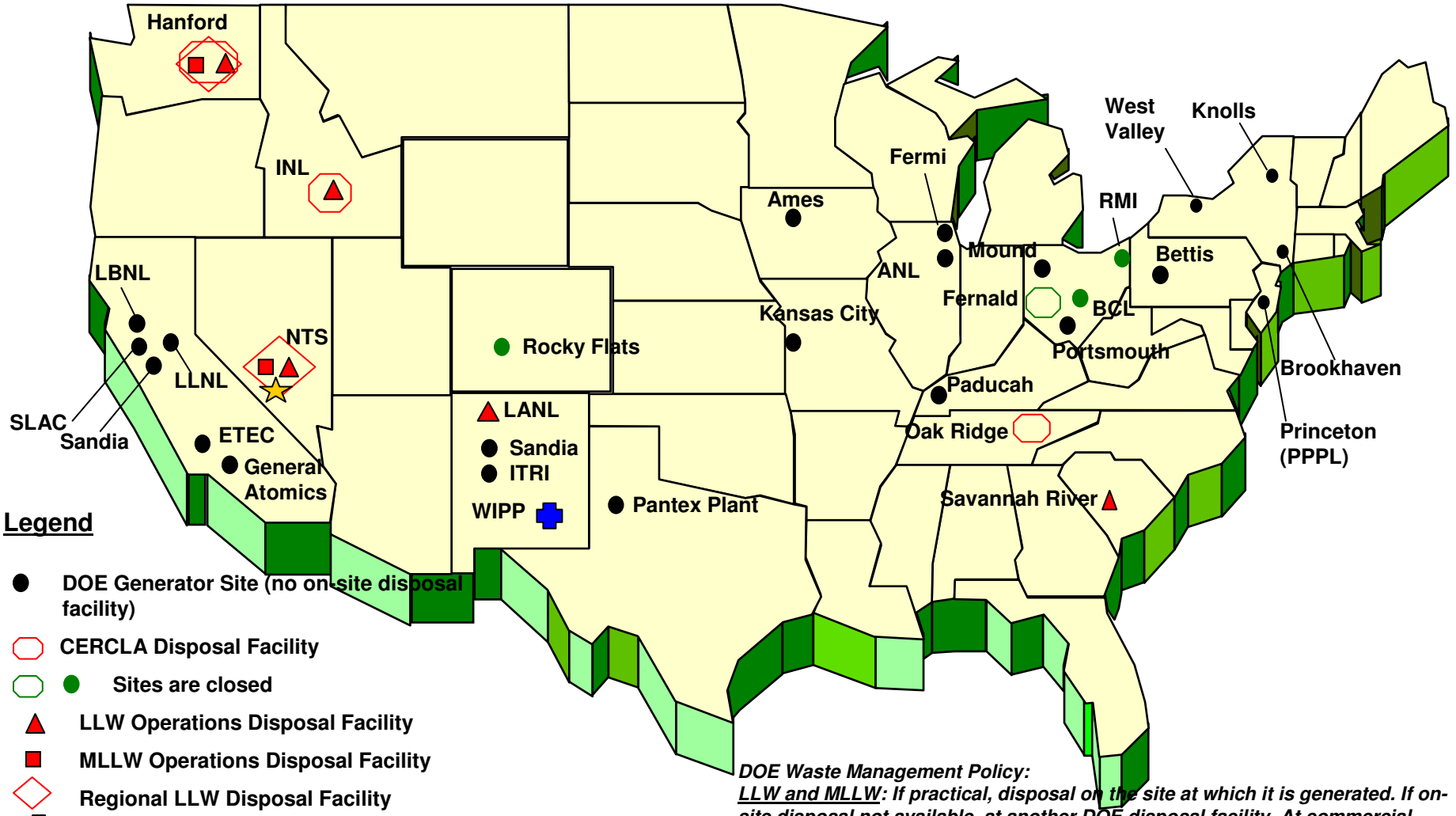
- **EM safely manages 2,400 MTHM, primarily at Hanford, INL, and SRS**
  - Hanford SNF is packaged for storage pending disposal
  - INL completing wet-to-dry this year and will be re-packaged for disposal
  - SRS currently stores its SNF in wet storage
- **EM's current strategy for aluminum-clad SNF is to consolidate and process at SRS in H-Canyon**
  - Reduces number of canisters to geologic repository
  - Recovers energy from SNF to produce electricity

# *In closing…*

- EM has 20 years of progress and experience in safely managing radioactive wastes and nuclear materials
  - We solve problems that once seemed unsolvable
- DOE missions and many US initiatives rely on the DOE waste management system
  - Commercial industry plays a significant role in DOE's waste management system
- A strong partnership with our regulators, stakeholders and industry is required to maintain and support the DOE waste and materials disposition system
- The *American Recovery and Reinvestment Act* will result in accelerated cleanup and increased waste and materials disposition challenges
- EM's Office of Regulatory Compliance, though its ongoing and planned initiatives, is poised to support these activities

# *Background Slides*

# DOE's Waste Disposal Complex




**Legend**

- DOE Generator Site (no on-site disposal facility)
- CERCLA Disposal Facility
- Sites are closed
- LLW Operations Disposal Facility
- MLLW Operations Disposal Facility
- Regional LLW Disposal Facility
- Waste Isolation Pilot Plant (WIPP) for TRU disposal
- Yucca Mountain Repository for HLW/SNF Disposal

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

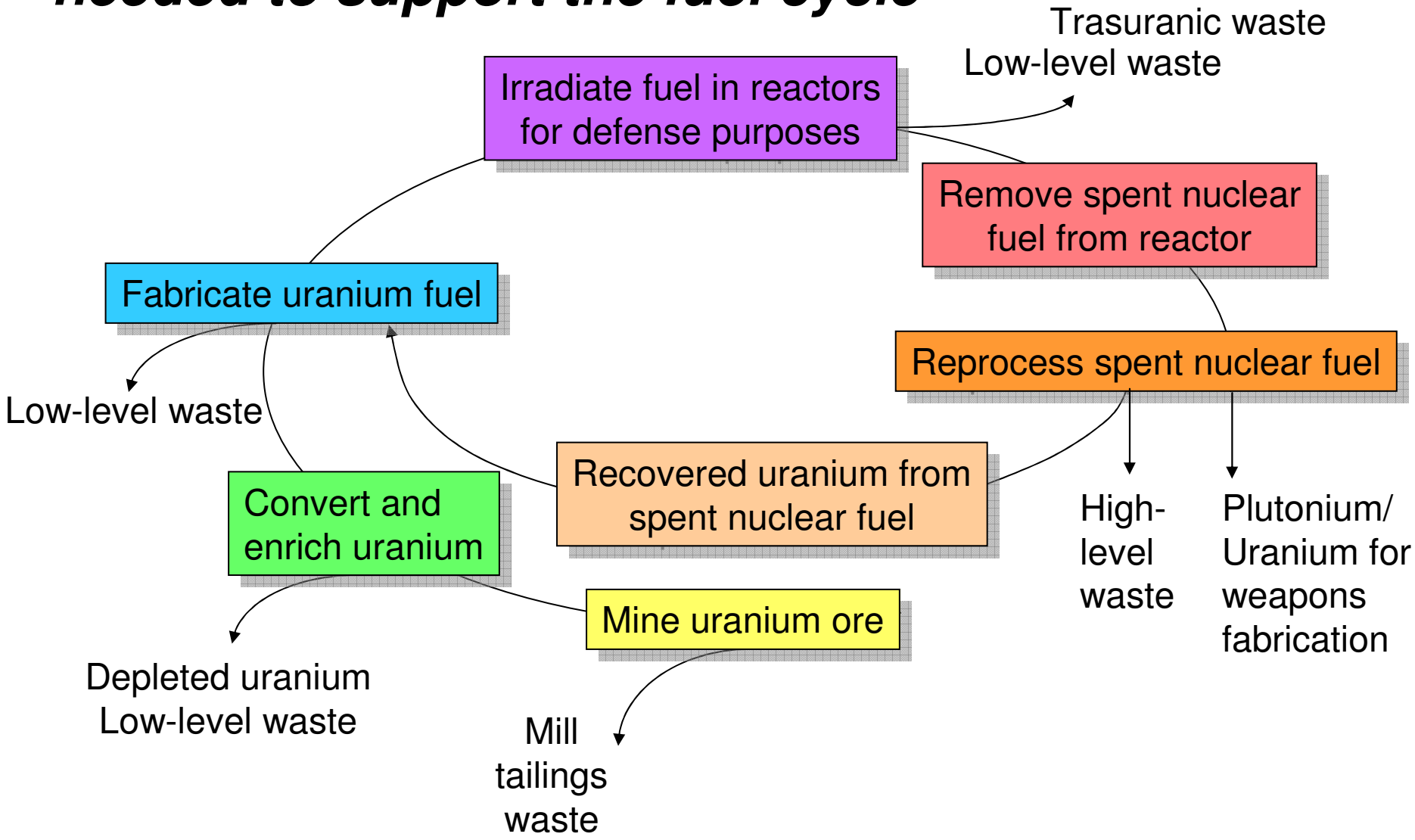
***DOE Waste Management Policy:***

***LLW and MLLW**: If practical, disposal on the site at which it is generated. If on-site disposal not available, at another DOE disposal facility. At commercial disposal facilities if compliant, cost effective, and in best interest of the Department*

***TRU waste**: If defense, disposed at Waste Isolation Pilot Plant, New Mexico. If non-defense, safe storage awaiting future disposition*

***HLW and SNF**: Stabilization, if necessary, and safe storage until geologic disposal is available*

# *A comprehensive waste management system is needed to support the fuel cycle*



# *Nickel Recycle*

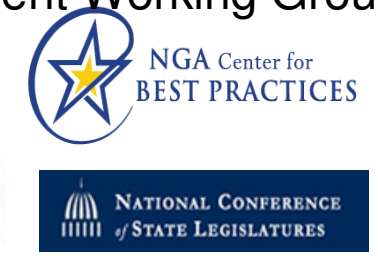
***If Strategy is approved:***

- **Obtain DOE Headquarters offices (e.g., MA, GC) concurrences to issue the draft RFP** – early 2009
- **Obtain Secretarial agreement to proceed** – mid 2009
- **Issue draft solicitation for industry review** – mid 2009
- **Finalize Environmental Assessment** – Spring 2009
- **Release final solicitation and pursue sale** – Early 2010
- **Evaluate bids and make selection** – Mid 2010
  - Complete further site-specific NEPA analysis, if required
- **Award** – Late 2010

# *Intergovernmental Groups*

- When major changes in policy direction are contemplated by the Department, EM facilitates communication of these changes to a wide range of interested (and affected) parties
- EM supports these national intergovernmental organizations through grants and cooperative agreements:
  - Energy Communities Alliance (ECA)
  - National Association of Attorneys General (NAAG)
  - National Governors Association (NGA)
  - National Conference of State Legislatures (NCSL)
  - Environmental Council of the States (ECOS)
  - State and Tribal Government Working Group (STGWG)







# *Tribal Government Interactions*

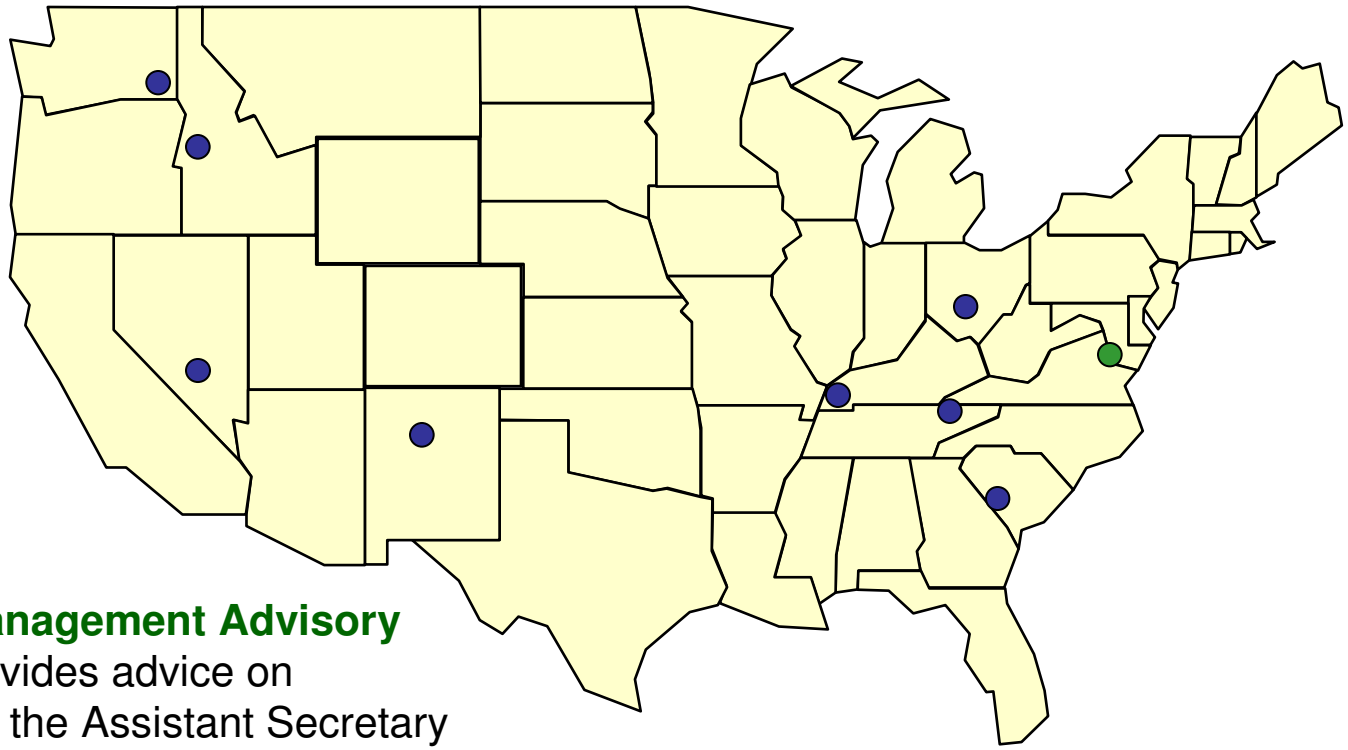
- EM is committed to ***government-to-government consultation*** with Tribal nations to enhance EM decision-making and protect Tribal rights and interests

- Drivers
  - DOE American Indian Alaska Native Tribal Government Policy
  - Framework for Implementation of the DOE Tribal Policy
  - DOE Order 144.1

- EM regularly interacts with the Tribal nations around its sites and through the State and Tribal Government Working Group

**Seneca Nation**
**Cochiti Pueblo**
**Jemez Pueblo**
**Nez Perce**
**San Ildefonso Pueblo**
**Santa Clara Pueblo**
**Yakama Nation**
**Confederated Tribes of the Umatilla Reservation**

# EM Federal Advisory Committees



- **Environmental Management Advisory Board (EMAB)** provides advice on corporate issues to the Assistant Secretary
- **Environmental Management Site-Specific Advisory Board (EM SSAB)** provides advice on site-specific and cross-complex issues to the Assistant Secretary and the Field managers or Assistant Managers for EM activities at Hanford, Idaho, Nevada, Northern New Mexico, Oak Ridge, Paducah, Portsmouth, and Savannah River